

Title (en)
SEMICONDUCTOR DEVICE HAVING RADIATOR

Publication
EP 0090633 A3 19850828 (EN)

Application
EP 83301736 A 19830328

Priority
JP 5073382 A 19820329

Abstract (en)
[origin: US4688077A] A semiconductor device having a semiconductor package and a radiator. The semiconductor package houses a semiconductor chip therein. The radiator includes a pillar which has a plurality of fins thereon. One end of the pillar is bonded to the semiconductor package. A hole is formed in the other end of the pillar and extends the longitudinal direction of the pillar.

IPC 1-7
H01L 23/36

IPC 8 full level
H01L 23/36 (2006.01); **H01L 23/367** (2006.01); **H05K 13/00** (2006.01)

CPC (source: EP US)
H01L 23/367 (2013.01 - EP US); **H01L 2224/48091** (2013.01 - EP US); **H01L 2224/73265** (2013.01 - EP US)

C-Set (source: EP US)
H01L 2224/48091 + **H01L 2924/00014**

Citation (search report)
• [X] US 4292647 A 19810929 - LEE JAMES C K
• [X] EP 0035390 A1 19810909 - FUJITSU LTD [JP]
• [A] US 2994017 A 19610725 - KURT KADELBURG
• [A] IBM TECHNICAL DISCLOSURE BULLETIN, vol. 23, no. 9, February 1981, pages 4222-4223, New York, US; S.W. NUTTER et al.: "Center-post heat sink"

Cited by
DE102013223461A1

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
US 4688077 A 19870818; DE 3380241 D1 19890824; EP 0090633 A2 19831005; EP 0090633 A3 19850828; EP 0090633 B1 19890719; IE 54726 B1 19900117; IE 830706 L 19830929; JP S58169943 A 19831006; JP S6339106 B2 19880803

DOCDB simple family (application)
US 82296486 A 19860128; DE 3380241 T 19830328; EP 83301736 A 19830328; IE 70683 A 19830329; JP 5073382 A 19820329